



Calhoun: The NPS Institutional Archive

Energy Academic Group

Energy Academic Group Publications

2015-04-17

Assessing and improving the resilience of operational energy and critical infrastructure systems

Alderson, David

Monterey, California: Naval Postgraduate School



Calhoun is a project of the Dudley Knox Library at NPS, furthering the precepts and goals of open government and government transparency. All information contained herein has been approved for release by the NPS Public Affairs Officer.

**Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943**

<http://www.nps.edu/library>

ENERGY ACADEMIC GROUP

Energy Goals Academics Executive Ed Research Faculty Seminar Resources

Defense Energy Seminar

NPS Energy Academic Group > Seminar

ASSESSING AND IMPROVING THE RESILIENCE OF OPERATIONAL ENERGY AND CRITICAL INFRASTRUCTURE SYSTEMS

April 17, 2015 – ME Auditorium - 1300



Dr. David Alderson

Associate Professor Operations Research Department
Director, NPS Center for Infrastructure Defense, Naval Postgraduate School

Abstract

In this talk, I will describe recent work in the NPS Center for Infrastructure Defense to assess and improve the operational resilience of critical energy infrastructure systems to either deliberate threats (e.g., attacks, sabotage, vandalism) or non-deliberate hazards (e.g., accidents, failures, natural disasters). We quantify operational resilience for an infrastructure system to a set of disruptive events in terms of degradation of system function. We show how to build and solve a sequence of models to assess and improve the resilience of an infrastructure system to those disruptions. Using notional examples and real applications to the military fuel supply chain the Pacific Theater, I will present insights and lessons learned.

Biography

Dr. Alderson is an Associate Professor in the Operations Research Department and serves as Director for the Center for Infrastructure Defense at the Naval Postgraduate School (NPS). He is also a member of the NPS Cyber Academic Group, which has academic oversight of interdisciplinary cyber curricula on campus.

Dr. Alderson's research focuses on the function and operation of critical infrastructures, with particular emphasis on how to invest limited resources to ensure efficient and resilient performance in the face of accidents, failures, natural disasters, or deliberate attacks. His research explores tradeoffs between efficiency, complexity, and fragility in a wide variety of public and private cyber-physical systems.

Dr. Alderson has been the Principal Investigator of sponsored research projects for the Navy, Army, Air Force, Marine Corps, and Coast Guard. He is the recipient of the 2014 Carl E. and Jessie W. Menneken Faculty Award for Excellence in Scientific Research.

Dr. Alderson received his doctorate from Stanford University and his undergraduate degree from Princeton University. He has held research positions at the California Institute of Technology (Cal Tech), the University of California Los Angeles, the Xerox Palo Alto Research Center (PARC), and the Santa Fe Institute. He has extensive industry experience and has worked for several venture-back startup companies. His early career was spent developing technology at Goldman Sachs & Co. in New York City.

POC

Dr. Daniel A. Nussbaum

Naval Postgraduate School

SEMINAR EVENTS

View Other Seminar Events:

< Back

Next >

April 2015

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

[View All Seminar Speakers](#)

ADDITIONAL INFO

Dr. David Alderson - Presentation Flyer

[April 17, 2015 - Event Flyer](#)

Naval Postgraduate School
Chair, Energy Academic Group
Monterey CA 93943
Phone 831-656-2387
Cell 831-324-3228
email: dnussbaum@nps.edu

[Contacts](#) | [Employment](#) | [Copyright / Accessibility / Section 508](#) | [Privacy Policy](#) | [FOIA](#) | [Intranet Access](#)

This is an official U.S. Navy website.
All information contained herein has been approved for release by the [NPS Public Affairs Officer](#).
Page Last Updated: Oct 4, 2014 6:10:23 PM | [Contact the Webmaster](#)